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ABSTRACT

Twelve interdisciplinary lessons with supplementary materials for grades three and four comprise this teaching guide about the Cape Hatteras Lighthouse. An introduction explains how the lighthouse is threatened by erosion, alternatives for saving it, the need for the lighthouse, and its history. Each lesson includes subject area, skills, lesson concepts, competency goals, objectives, materials, background information, teacher preparation, procedures for student activities and enrichment activities. The lighthouse, seashore, shipwrecks, sand dunes, lifesaving, and weather are explored through art, reading, writing, map skills, demonstrations, simulations, acting, and math skills. (DC)

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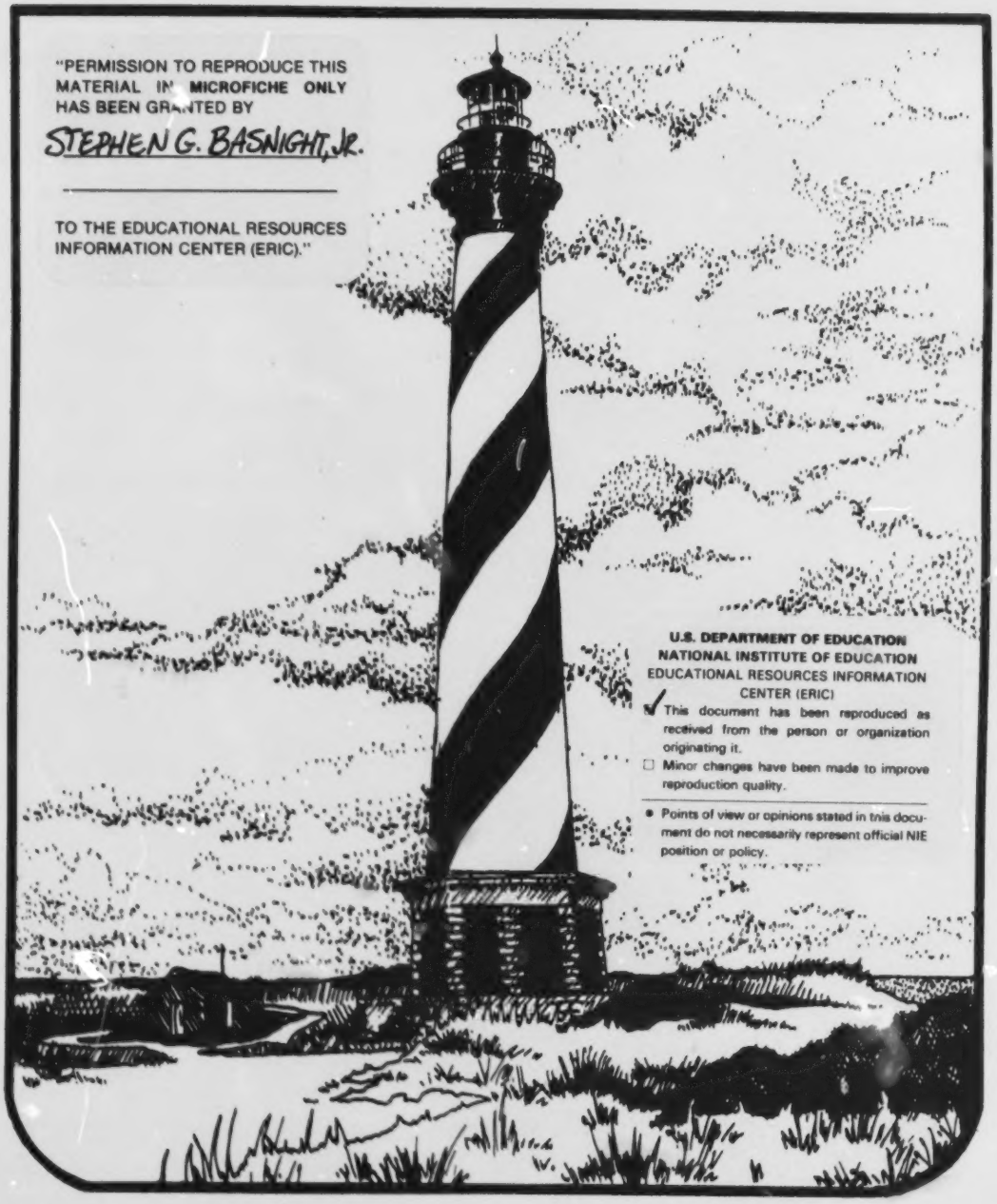
CAPE HATTERAS LIGHTHOUSE



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PROJECT CAPE TEACHING MODULE

Developed under an ESEA Title IV-C Grant

Dare County Board of Education
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TITLE: CAPE HATTERAS LIGHTHOUSE

GRADE LEVEL: 3-4

SUBJECTS: Social Studies, Language Arts, Mathmatics, Science, Art, Music

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UNIT CONCEPTS

I. WATER AND SOCIETY

Water influences history and human culture.

1. Water is a medium of transportation, commerce and communication.

2. Water availability shapes industry, agriculture and commerce.

3. Water plays a role in shaping our customs and beliefs.

II. WATER AND HUMAN EXPRESSION

Water influences human aesthetic and spiritual values.

1. Water inspires creativity in art, literature, and music.

2. Water can provide the setting for human self-renewal and spiritual experiences.

INTRODUCTION

One of America's tallest and oldest lighthouses may give way to the gnawing edge of the ocean if action is not taken. The Cape Hatteras Lighthouse on North Carolina's Outer Banks is in danger of falling into the ocean by erosion of the shoreline near its base. At one point in 1980, waves were only 60 feet from the base.

The lighthouse is threatened by erosion; but it has been threatened before and survived. In the 1930's the erosion was so bad the lighthouse was abandoned and replaced by a skeleton steel tower in Buxton Woods. The Cape Hatteras Lighthouse was saved by the CCC (Civilian Conservation Corps) by building fences to capture the wind blown sand to increase the height of the dunes and replanting the dunes with grasses.

The Cape Hatteras National Seashore has six possible options for saving the 110 year old lighthouse. The first option would be to do nothing and let nature take its course. It is estimated the structure would fall in five to ten years.

The second alternative is to relocate the lighthouse further inland. This would cost approximately $2.5 million and there could be possible damage to the structure during moving.

The third option is to build a full revetment around the base of the lighthouse with armor plate and granite blocks. The lighthouse would then be on a steel and granite island. This is estimated to cost from $4 to $6 million, but the revetment would

be adequate for 100 years.

A fourth alternative is to build a partial revetment on the side nearest the ocean. This would require periodic beach nourishment. Initial cost is approximately $2.6 million with nourishment and maintenance cost at $31 million over a 100 year period.

The fifth alternative is to build more groins near the lighthouse. This alternative would necessitate beach nourishment and maintenance with initial cost at $4.1 million and over the next 100 years costing up to $62 million.

The sixth option is just beach nourishment. The initial cost would be nearly $3 million and maintenance cost of $123 million over a 100 year period.

In the spring of 1981 artificial sea grass made of plastic was placed on the ocean floor in front of the lighthouse by divers. It is hoped the swirling plastic leaves will capture sand and begin to build up the beach.

Why should the lighthouse be saved? For 110 years it has guided sailors and fishermen past one of the most dangerous shoals of the world. The lighthouse is a symbol of America's first national seashore recreational area. It is a historic landmark, where so many historical events have taken place in the shadow of the tower.

The Need For The Lighthouse

One of the world's major shipping routes passes along the eastern coast of the United States, connecting the New England

ports with those of the Middle Atlantic, the Caribbean, the Gulf of Mexico and South America. Before the days of sophisticated radar and sonar navigational aides, no place was more treacherous in the coastal route than the stretch along North Carolina.

It is off the shore at Cape Hatteras that the two major ocean currents, the southbound Labrador Current collides with the northbound Gulf Stream. The constant turbulence caused by this collision has resulted in the formation of a shifting mass of underwater sand, Diamond Shoals, that juts eastward into the Atlantic Ocean for fourteen miles. Further complicating these hazards are the prevailing winds from the southwest. The combined force of the southwesterly winds and the Gulf Stream made passage extremely difficult for southbound vessels. Old-timers on the Outer Banks can recall counting 150 sailing vessels tacking back and forth offshore waiting for a change in the wind direction and hoping not to pile up on Diamond Shoals.

Even in daylight the danger of wrecking on Diamond Shoals was great enough, but at night the first warning was the breaking of waves on the shoals. In spite of the great need, the U. S. Congress did not authorize a lighthouse at Hatteras until 1794 and complications further delayed its completion until 1802. Then it was yet another year before the oil lamp could be installed and set into operation.

The First Cape Hatteras Lighthouse

The first lighthouse at Cape Hatteras was put into operation on October 29, 1803. Henry Dearborn contracted to build the lighthouse in October 1798.

The first Cape Hatteras Lighthouse suffered many problems both before and after construction. Problems included delays in Congressional funding, sickness of the labor force due to working conditions, probably malaria, and difficulties in transporting materials due to frequent storms and heavy seas. At the same time Dearborn was building the Cape Hatteras Lighthouse, he was also building a beacon on Shell Castle Island at Ocracoke. He was paid $39,650.00 for the construction of the lighthouse and beacon. In January 1809 the lighthouse was damaged when the oil in the lamp of the lighthouse accidentally caught fire. By 1810 the lighthouse was in bad need of repair. The tower needed whitewashing and wire netting was needed around the lantern to keep the birds away. Erosion of sand away from the base and fires in the lantern were the most serious problems. Mariners complained that they could not see the light at all sometimes and it was dangerous for them to try to navigate around the Diamond Shoals.

The Second Cape Hatteras Lighthouse

In 1864 the Lighthouse board requested funds to replace the wooden stairs in the towers of the Cape Hatteras lighthouse and the Cape Lookout lighthouse. Lighthouse District Engineer, W. J. Newman, commented to Congress "that the condition of the Cape Hatteras tower is such that it is not worth the contemplated outlay, but rather that an appropriation be applied for, to build a new tower." He added that "the vibrations during heavy gales are alarming and the cracks in the old tower are extending." Sand was eroding from around the tower and it was terribly out of

date. In March 1867 Congress appropriated $75,000 for rebuilding the Cape Hatteras Lighthouse.

The Lighthouse Board built the lighthouse under the supervision of their own foremen with day labor, and contracted for all materials needed instead of hiring a contractor as before with the old lighthouse. Contracts included: Nicholas M. Smith of Baltimore to supply 1,000,000 "prime dark red" bricks at $12.35 per thousand; Bartlett, Robbins and Company to supply the metal to be used in construction; Beattie, Dawson and Company to furnish stone for the foundation and steps; and Lennox and Burgess of Philadelphia to transport materials to Cape Hatteras. Dexter Stetson was selected to be foreman, and it was under his direction that the tower was built.

Construction problems occurred the same as before. Crewmen became overcome with malaria and supplies were delayed due to shipwrecks.

The new tower was completed and the light displayed for the first time on September 17, 1870. At this time, the Cape Hatteras Lighthouse was the tallest brick lighthouse in the world. Today it stands at 198 feet tall and is the tallest lighthouse on the American coast. The Lighthouse Board decided to paint all of the lighthouses on the Outer Banks to serve as daymarkers. The Ocracoke Lighthouse, which replaced the Shell Castle Island Beacon in 1818, was whitewashed. The Cape Hatteras Lighthouse was painted black and white in a candy-striped pattern. The Cape Lookout Lighthouse was painted in black and white diamond pattern and the Bodie Island Lighthouse was painted in black and white horizontal

stripes. The lighthouse at Currituck was painted red.

The old tower was blown up on February 16, 1871 since there was no need for it and because it was in danger of collapsing in heavy storm.

Today the Cape Hatteras Lighthouse is still in operation. It is a part of the Cape Hatteras National Seashore which begins at Whalebone Junction and extends to Ocracoke Island. The park includes Bodie Island, Pea Island National Wildlife Refuge, Hatteras Island and Ocracoke Island. Eight villages also occur within the natural boundaries of the park but are not a part of the National Seashore.

Stick, David. North Carolina Lighthouses. Raleigh: Division of Archives and History, 1980.

Holland, F. Ross, Jr. A History of the Cape Hatteras Light Station. National Park Service, U. S. Department of the Interior, 1968.

EXPLANATION OF CODING SYSTEM

FOR SUPPLEMENTARY MATERIALS

GRADE LEVELS AND SUBJECTS	CODE
K-2 Multidisciplinary	K-2a, K-2b, K-2c
3-4 Multidisciplinary	3-4a, 3-4b, 3-4c
5-6 Multidisciplinary	5-6a, 5-6b, 5-6c
SECONDARY SCHOOL	
English	ENG
Occupational Education	OE
Social Studies	SOC
Science	
Life	SC1
Earth	SC2
Biology	SC3

LESSON NUMBERS	
1	1.
2	2.
3	3.
etc.	etc.

SUPPLEMENTAL MATERIALS	
1	.1
2	.2
3	.3
etc.	etc.

EXAMPLES

K-2a
1.1 Translates: a supplemental sheet, booklet or game number 1 that accompanies the 1st lesson of Unit K-2a for grades K-2.

SC2
6.4 Translates: a supplemental sheet, booklet or game number 4 that accompanies the 6th lesson in Unit SC2 for earth science.

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Lesson Number: 1
Subjects: Art, Math, Social Studies
Skills: Inquiry, Creative, Manipulative, Measurement

CAPE HATTERAS LIGHTHOUSE: A PICTURE

LESSON CONCEPTS

1. The Cape Hatteras Lighthouse was built in 1870 to serve as an aid to navigation.

2. The Cape Hatteras Lighthouse is 198 feet tall and is the tallest lighthouse on the American coast.

COMPETENCY GOALS

1. The learner will be able to use graphs and charts in a manner commensurate with his/her maturity.

2. The learner will interpret pictorial materials.

OBJECTIVES

1. The learner will be able to decode a pictorial graph of the Cape Hatteras Lighthouse.

2. The learner will be able to color a pictorial graph of the Cape Hatteras Lighthouse and draw the background scenery accordingly.

MATERIALS

picture graph of Cape Hatteras Lighthouse crayons

BACKGROUND INFORMATION

The teacher should present the information on the Cape Hatteras Lighthouse to the students. The following facts should be stressed:

1. The present Cape Hatteras Lighthouse was completed in 1870.
2. The Cape Hatteras Lighthouse is 198 feet tall and is the tallest lighthouse on the American coast.

3. The Cape Hatteras Lighthouse serves as a navigation aid both day and night.

4. The Cape Hatteras Lighthouse is painted black and white in a candy-striped pattern.

5. The Cape Hatteras Lighthouse can be seen as far as 32 km. (20 miles) out at sea.

TEACHER PREPARATION

Make duplicate copies of the pictorial graph of the Cape Hatteras Lighthouse.

ACTIVITIES

1. Have the students follow the code of the graph in coloring a picture of the Cape Hatteras Lighthouse.

2. Present the background information to the students in a manner appropriate to the children's level.

3. Allow the students to color in a background picture of their own design.

ENRICHMENT

Small groups of children may complete another graph of the lighthouse that is a larger, more detailed form. The graph is included in the media packet.

Lesson Number: 2
Subjects: Math,
Social Studies
Skills: Manipulative,
Organizational,
Measurement,
Communicative

CAPE HATTERAS NATIONAL SEASHORE

LESSON CONCEPT

Cape Hatteras National Seashore extends from Whalebone Junction to Ocracoke Island covering approximately 70 miles.

COMPETENCY GOAL

The learner will interpret pictorial materials.

OBJECTIVES

1. The learner will be able to find specific map locations of the northern North Carolina coast by answering questions.
2. The learner will be able to locate specific information using a legend on a map.
3. The learner will be able to fill in a blank map of the northern North Carolina coast by following directions.

MATERIALS

blank map of the northern North Carolina coast
transparency of the map completed map (answer map)

TEACHER PREPARATION

Make duplicate copies of the blank map provided with the lesson. Prepare a transparency of the blank map and the filled in map (answer map).

ACTIVITIES

Show the transparency of the blank map to the class. Each student

should have a copy of a blank map. Go through the following teacher directed activities with the class:

1. Explain that a sound is a body of water forming a channel between the mainland and an island. Ask the children to locate the sounds on their map. Label the sounds on the transparency and have the children label their maps. The sounds are Currituck, Albemarle, Roanoke, Croatan and Pamlico.

2. Explain that an island is a body of land completely surrounded by water and too small to be a continent. Label the transparency and have the children label their map. The island on the map is Roanoke Island.

3. Explain that a barrier island is a low, offshore island stretching parallel to the shore and separated from the mainland by a small body of water. Point out the barrier islands and label Bodie Island, Pea Island, Hatteras Island and Ocracoke Island. Have the children label their map accordingly.

4. Explain that an inlet is actually an outlet from the sounds to the ocean but because early mariners were looking for an opening to get "into" a safe harbor, they were called inlets. An inlet is an opening between barrier islands. Locate and label the inlets - Oregon Inlet, Hatteras Inlet and Ocracoke Inlet.

5. Locate and label Cape Hatteras on the map. Children may draw a lighthouse there to indicate the location of the Cape Hatteras Lighthouse.

6. Place the "answer map" on the overhead projector and let the students label the following places on their maps: Kill Devil Hills, Kitty Hawk, Manteo, Wanchese, Nags Head, Rodanthe, Waves, Salvo, Avon, Buxton, Frisco, Hatteras and Ocracoke.

7. Instruct the students in using the scale of miles on the map. Have the children make their own scale by using a piece of scrap paper and copying the scale of miles from the map.

8. Have the children answer the following questions using the scale of miles.

    1. How many kilometers is it from Oregon Inlet to Hatteras Inlet? (90 km.) How many miles? (56 mi.)
    2. How many miles is it from Frisco to Buxton? (5 mi.)
    3. How many kilometers is it from Kill Devil Hills to Nags Head? (8 km.)
    4. How wide is the barrier island at Rodanthe in miles? (3.5 mi.) In kilometers? (2 km.)

5. How many kilometers is it to the Cape Hatteras Lighthouse if you are in Rodanthe? (48 km.)

ENRICHMENT

Continue using appropriate questions to facilitate the skill of using a scale.

Lesson Number: 3
Subjects: Language Arts, Social Studies
Skills: Communicative, Inquiry

TAFFY OF TORPEDO JUNCTION

LESSON CONCEPT

The Outer Banks of North Carolina, particularly Cape Hatteras, became a Torpedo Junction during World War II.

COMPETENCY GOAL

The learner will use literature for self expression.

OBJECTIVES

1. The student will be able to listen and comprehend the events of the story Taffy of Torpedo Junction.
2. The student will be able to express his/her reaction to the story Taffy of Torpedo Junction by coloring a picture or drawing of his/her own design.

MATERIALS

Taffy of Torpedo Junction by Nell Wise Wechter

paper crayons

ACTIVITIES

1. Read a chapter of Taffy of Torpedo Junction by Nell Wise Wechter every day. There are ten chapters that are relatively short in length and leave a suspenseful end each day.
2. Have the children illustrate an event in the story after they have heard the conclusion. Provide drawing paper and crayons and allow for individual creativity in their choice of events to illustrate.
3. Mark the map completed in the previous exercise (Lesson 2) with the following places:

   Taffy's house - Cape Hatteras the old house - Buxton Woods

REFERENCE

Wechter, Nell Wise. Taffy of Torpedo Junction. Winston-Salem, North Carolina: John F. Blair, Publisher, 1967.

Lesson Number: 4
Subjects: Art,
Social Studies
Skills: Creative,
Measurement,
Organizational

THE LIGHTHOUSE

LESSON CONCEPTS

1. The Cape Hatteras Lighthouse is painted black and white in a spiral candy-striped pattern.
2. The lighthouse serves as a navigational aid to mariners both day and night.
3. Its light can be seen as far as 32 km. (20 mi.) out at sea.

COMPETENCY GOALS

1. The learner will develop creative skills.
2. The learner will develop concepts of elements of art (line, texture, color, shape/form, space).
3. The learner will develop manual skills.

OBJECTIVES

1. The learner will be able to participate in a class project to build a model of the Cape Hatteras Lighthouse.
2. The learner will be able to work with others in constructing the model by placing papier mache on the model.

MATERIALS

shallow box	sticks or dowels	chicken wire	old newspapers
wheat paste	white paint	black paint	paint brushes

TEACHER PREPARATION

Prepare the basic shape (cone) of the lighthouse. Use sticks or dowels and wrap chicken wire around them to form a cone of the dimensions you wish the lighthouse to be. Place this basic shape in a shallow box in the art area or on a table in the classroom.

ACTIVITIES

1. Tear sheets of newspaper into strips 1½ to 2 inches wide and about 6 inches long.

2. Mix wheat paste with water to form a thin consistency.

3. Allow small groups of children to work on the model by placing strips of newspaper coated with the paste mixture on the model.

4. Place the strips on the model making sure they overlap.

5. Each successive layer should be allowed to dry before starting another layer.

6. When the model has achieved the shape and look that you desire, let the children paint the spiral striped pattern on the lighthouse.

7. Using construction paper or toothpicks painted black, add the finishing touches comparable to the ironwork on the lighthouse.

8. Fill the box with sand and add fences, plants, etc.

9. The lighthouse keeper's house may be constructed also from boxes painted white with windows and doors cut out or painted black.

Lesson Number: 5
Subjects: Language Art, Social Studies, Art
Skills: Organizational, Creative, Communicative

SALVAGE A SHIPWRECK

LESSON CONCEPT

The Outer Banks of North Carolina have become known as the "Graveyard of the Atlantic" because of hundreds of shipwrecks strewn throughout its waters.

COMPETENCY GOALS

1. The learner will be able to compose a coherent piece of writing with an appropriate beginning, middle and end.
2. The learner will organize according to purpose, audience and situation.
3. The learner will select and use materials and equipment appropriate to personal needs and classroom assignments.

OBJECTIVES

1. The learner will be able to locate and organize information on a shipwreck.
2. The learner will be able to compose a short report of a shipwreck.
3. The learner will be able to present a picture of the ship that he/she has researched by drawing and coloring or painting an illustration of their shipwreck.

MATERIALS

a map of North Carolina pinned to a bulletin board
copies of handout sheets on shipwrecks taken from Wreck Diving In North Carolina by Dennis C. Regan and Virginia Worthington. UNC Sea Grant Publication, (UNC-SG-78-13), 1978. (Located in the media package.)

NOTE TO THE TEACHER: The handout sheets on shipwrecks include wrecks of vessels that have steel hulls or had sizable portions still remaining as late as 1978. Along North Carolina's coast many hundreds of wrecks have occurred from which there are no remains.

ACTIVITIES

1. From the handout sheets on shipwrecks, assign each student a wreck to "salvage".

2. Each student should begin a "dive" for any information available on his/her wreck. Student dives for information should include reading the short descriptions from the handouts and work in the media center. If specific information about wrecks is unavailable, then students may find descriptions of the types of vessels, etc.

3. After "diving", the students should write a brief account of the factual information discovered about their assigned wreck. Information should include: location, type of vessel, date of shipwreck, number of lives lost, etc.

4. Each student should mark the location of his/her wreck on the North Carolina map.

5. The students can have a sharing time in which to present orally the information they have gathered about their wrecks.

6. Give students art materials and ask them to draw pictures illustrating their shipwrecks. Have them write the names of the ships on their drawings.

7. Place the illustrations on a bulletin board in the classroom or in the school hall.

Lesson Number: 6
Subjects: Language Arts, Social Studies
Skills: Creative, Communicative

IT'S A SHIPWRECK!

LESSON CONCEPT

People of the Outer Banks were affected by the shipwrecks that occurred.

COMPETENCY GOALS

1. The learner will be able to compose a piece of writing that has a main idea.

2. The learner will be able to clarify and organize ideas and feelings before writing.

3. The learner will be able to compose a piece of writing with an appropriate and consistent point of view.

OBJECTIVES

1. The student will be able to write a story about a shipwreck.

2. The student will be able to select a point of view and write a story of an account of a shipwreck from that point of view.

ACTIVITIES

1. The children should be ready to write their own stories about shipwrecks after participating in Lesson 5.

   Provide some motivation by telling the following story:

   "This is the story of Rasmus Midgett. When the barkentine Priscilla was driven ashore three miles south of the Gull Shoals Station by the storm of August 17, 1899, Rasmus Midgett, surfman on patrol, alone saved ten men's lives. Ten times he ran down into the pounding surf and each time he brought back a man."

2. The children should be encouraged to select a point of view which appeals to them.

3. They may choose from the following or determine their own.

Sailor	Ship Captain	Life Saving Station
Outer Banker	Lighthouse Keeper	Surfman

4. The effort should be a creative endeavor so that technical errors should be minimized. Choose only one aspect that should be corrected and allow the student to rewrite the paper to make it "better".

Lesson Number: 7
Subjects: Science,
Social Studies
Skills: Inquiry,
Organizational,
Manipulative

SAND DUNE

LESSON CONCEPT

Many of the sand dunes on the Outer Banks were developed by people to slow the erosion of the beaches.

COMPETENCY GOALS

1. The learner will understand that the earth's surface is always changing.
2. The learner will demonstrate the ability to observe.
3. The learner will demonstrate the ability to formulate models.

OBJECTIVES

1. The learner will be able to actively participate in an experiment.
2. The learner will be able to determine the variables of the experiment and control these variables.
3. The learner will be able to demonstrate competence in using the scientific method.

MATERIALS

shallow box
hair dryer (electric fan)
toothpicks or match sticks
beach sand or fine sand

BACKGROUND INFORMATION

Erosion is a major problem of the Outer Banks today. Erosion occurs because of wind and wave action, changes in sea level, and ocean currents. Erosion of the land is especially noticeable after a storm.

Man has tried a number of ways to slow down the process of beach erosion. One of these ways was to build sand fences along the beach to collect sand and make high sand dunes to hold back the ocean.

TEACHER PREPARATION

Fill a shallow box with beach sand or fine sand. Place it in an area where the box will not be disturbed and the children can observe it in safety. Use a hair dryer (electric fan or vacuum cleaner) to blow the sand against the toothpick sand fence.

ACTIVITIES

1. Using toothpicks or match sticks, build a sand fence in the sand box near the rear of the box. Place the sticks close together and push them deep enough so that they will not be blown down by the force of the wind. Be sure there is adequate sand in front of the fence to build up around the fence as the dryer is blown.

2. Place the box in an appropriate place to use the hair dryer to blow the sand.

3. Continue to blow the sand for about 20 minutes a day or longer if possible.

4. Give the children time to observe the changes each day.

5. When the sand fence is completely covered, build another one directly on top of the old one.

6. Continue the experiment until you have built a sand dune.

ENRICHMENT

Try the effects of a strong wind as compared to the effects of a gentle wind. Use other variables such as water (wave action), walking across the sand dune (let your fingers do the walking), etc.

Lesson Number: 8
Subjects: Social Studies, Art
Skills: Creative, Manipulative, Organizational, Communicative

BEACH APPARATUS DRILL

LESSON CONCEPT

The Lifesaving Service practiced every week to be able to work cooperatively in saving lives in the event of a shipwreck.

COMPETENCY GOAL

The learner will participate in group activities.

OBJECTIVES

1. The learner will be able to work cooperatively in a group situation.
2. The learner will be able to perform a part of the beach apparatus drill used by the Lifesaving Service in the years before the Coast Guard.

BACKGROUND INFORMATION

At least once a week, the surfmen of the Lifesaving Service practiced lifesaving techniques.

The surfmen raced into the boathouse, hitched two enormous clydesdales (horses) to a thousand-pound cart piled high with equipment and hurried down to the beach. Two surfboats on carriages followed close behind. On the beach, the surfmen emptied the cart, lighted the torches and lanterns (most whipwrecks occurred at night), and set up a small brass cannon called a Lyle gun. Half the crew loaded the Lyle gun with a lead projectile (similar to a large, long bullet) trailing a shot-line, a whip-line, a pulley-block and a thick rope called a hawser, while the other half dug deep into the sand to bury the heavy wooden anchor attached to the end of the hawser, and elevated the line with two crossed pieces of lumber. Once the projectile had been fired into the rigging of the distressed vessel, and the hawser and whip had been tied securely to the mast, surfmen could crank out the breeches

bouy, a device that looked much like a large cork donut with a pair of shorts sewn into it. The ship wrecked victim could then be pulled ashore in the breeches buoy one at a time and landed safely on the beach.

ACTIVITIES

1. Re-enact the beach apparatus drill using your own homemade equipment. Have the children make the beach apparatus from various materials. Check with hardware stores for scraps of rope and check for scrap wood - use the creative talents of the children in your classroom.

2. Poster paper rolled into a tube and painted or covered in foil can become a Lyle gun. The lead projectile can be a narrower tube also painted. Styrofoam life preservers are available or a tire inner tube that has been discarded can be patched to serve as the breeches bouy. Just sew in an old pair of shorts!

3. Let the students experiment and pretend to work through the beach apparatus drill several times until they can simulate a lifesaving operation of a shipwreck.

4. Let groups of students form teams and time them on their performance. Each team should compete only with themselves trying to beat their own time.

SOURCE

Schenck. "The Life Savers." Tar Heel, The Magazine of North Carolina. 6 (May/June 1978). p.34 - 39.

Lesson Number: 9
Subjects: Language Arts,
Music,
Reading
Skills: Communicative,
Creative,
Manipulative

"CHARLIE MASON POGIE BOAT"

LESSON CONCEPT

The U. S. Coast Guard is dedicated to the saving of life and property at sea.

COMPETENCY GOALS

1. The learner will develop concepts of emotional differences.
2. The learner will develop theater arts skills.

OBJECTIVES

1. The learner will participate in a class play of the song "Charlie Mason Pogie Boat" by Charles Stowe.
2. The learner will construct props to be used in the play "Charlie Mason Pogie Boat".

MATERIALS

2 large cardboard boxes
play money - $30,000.00
recording of "Between the Sound and the Sea"
blue or green sheet or cloth
rope

TEACHER PREPARATION

Listen to the song of the "Charlie Mason Pogie Boat" by Charles Stowe. Play the song for the class. Discuss the story of Wiley Lewis' boat the "Charlie Mason". See handout 9.1 in the media package.

ACTIVITIES

1. Prepare a class play of the story "Charlie Mason Pogie Boat". Outline the scenes of the play by depicting the events of the story.

Scene 1 - Fishing off the Look Shack, Ocracoke
Scene 2 - Mayday in a sudden storm "Nan-mike-nan 2-9"
Scene 3 - Coast Guard 83 footer attempts rescue
Scene 4 - Beach apparatus rescue of the crew using the Lyle gun and breeches bouy
Scene 5 - Payton Young's heart attack and death
Scene 6 - Van Henry and Stanley Wahab salvage the boat 3 months later

2. Let the children choose the parts they would like to play.

Charlie Mason Boat	Travis Williams' Store
Captain - Wiley Lewis	Travis Williams
Payton Young	Harvey Smith
crew member	
Coast Guard Boat	**Wahab Salvage Boat**
Captain Charles Stowe	Stanley Wahab
crew member	Van Henry O'Neal
crew member	crew member
crew member	crew member
	crew member

Lyle Gun Crew

Lum
William
Ansley O'Neal
crew member
crew member
crew member attempts artificial respiration

3. Construct the props necessary to act out the story. Large appliance boxes can be used for the Charlie Mason Pogie Boat, the Coast Guard Cutter, and Stanley Wahab's Salvage Boat.

4. A blue sheet can be used as the ocean. When the "Charlie Mason" is sunk, cover it with the sheet.

5. A rope will be needed as the Coast Guard cutter attempts to tow the "Charlie Mason".

6. Beach apparatus lifesaving equipment can be made from small boxes and cardboard. The apparatus is carried down to the beach in a beach cart. A Lyle gun is similar to a small cannon. A rope will be needed to pull the crew in from the boat. A styrofoam donut can be thrown out to the boat as the breeches bouy.

7. Film or video tape the play if equipment is available. Invite the children's parents to come and watch the play.

8. The complete words for the "Charlie Mason Pogie Boat" are included in the supplementary materials in the media packet.

Lesson Number: 10
Subjects: Math,
Science
Skills: Measurement,
Organizational

WEATHER INFORMATION

LESSON CONCEPT

The temperatures at Cape Hatteras National Seashore are affected by steady winds that make the temperatures seem cooler than they actually are.

COMPETENCY GOAL

The learner will demonstrate ability and skill in computation commensurate with his/her ability.

OBJECTIVES

1. The student will be able to find the average of a group of numbers.
2. The student will be able to read a chart and interpret and extract information from that chart.

MATERIALS

a chart of the monthly average temperatures taken over the past ten years at Cape Hatteras National Seashore (included in the media packet)

ACTIVITIES

Using the chart provided, answer the following questions:

1. What was the maximun average temperature for the month of April? (67^{o} F)
2. Find the average of the temperatures for the month of March. (58 + 40 = 98, 98 ÷ 2 = 49)
3. Find the average of the minimum average temperature for the months of January and April. (35 + 49 = 84, 84 ÷ 2 = 42)

4. Compare the maximum average temperature of the month of December with the month of August. What is the difference between August's temperature and December's? (86 - 53 = 33)

5. Compare the maximum average temperature of September with the minimum average temperature of September. What is the difference between the two average temperatures? (80 - 67 = 13)

6. Ask other questions according to the ability of the children participating in the exercise.

Lesson Number: 11
Subjects: Reading,
Math,
Social Studies
Skills: Inquiry,
Measurement,
Organizational

KEEPERS OF THE CAPE HATTERAS LIGHT

LESSON CONCEPT

Lighthouse keepers and their assistants were chosen for their leadership ability and usually were people from the Outer Banks area.

COMPETENCY GOALS

1. The learner will demonstrate ability to solve problems in a manner commensurate with his/her mental maturity.

2. The learner will be able to use graphs and charts in a manner commensurate with his/her mental maturity.

OBJECTIVES

1. The student will be able to read and find specific information in a table of the names of the lighthouse keepers and their assistants along with other information

2. The student will be able to solve simple word problems involving basic computations.

MATERIALS

copies of the table A Partial List of Keepers and Assistant Keepers of the Cape Hatteras Light from the book by F. Ross Holland, Jr., Cape Hatteras Light Station. National Park Service, 1968.

TEACHER PREPARATION

Make copies of the "Partial List of Keepers and Assistant Keepers" from the media packet.

ACTIVITIES

Using the table, answer the following questions.

1. Who was the first keeper of the Cape Hatteras Lighthouse? (Adam Gaskin)

2. What was Benjamin C. Jennett's annual salary for keeping the light? ($820.00)

3. What was the date that Issac C. Meekins began his service as Assistant Lighthouse Keeper? (April 10, 1905)

4. How long did Assistant Lighthouse Keeper Amasa Fulcher serve his duty at Cape Hatteras Lighthouse? (1 year, 20 days)

5. Abraham C. Farrow made $600.00 a year when he was Lighthouse Keeper and Alpheus W. Simpson made $820.00 a year when he was Lighthouse Keeper. What is the difference in the two salaries? ($820.00 - $600.00 = $220.00)

Make up as many questions and problems as needed to facilitate reading a table and solving word problems with simple computations.

Lesson Number: 12
Subjects: Reading,
Social Studies
Skills: Inquiry,
Manipulative,
Communicative

THE GRAVEYARD OF THE ATLANTIC

LESSON CONCEPTS

1. Geology, winds and tides combine to make North Carolina's coastline hazardous to navigate.

2. Ship salvaging was an occupation of some of the early residents on the Outer Banks of North Carolina.

COMPETENCY GOALS

1. The learner will use maps and globes.

2. The learner will locate needed information.

OBJECTIVES

1. The learner will locate important places and features along the North Carolina coast.

2. The learner will understand some factors that make North Carolina's coast hazardous to navigate.

BACKGROUND INFORMATION

Shallow inlets, hidden shoals and sand bars, wind, tides and strong currents of the Gulf Stream all combine to make North Carolina's coastline hazardous to navigators. Sailing ships had difficulty making headway south around Diamond Shoals against the combined forces of the Gulf Stream Current and the steady southwest winds. A shift in wind to the north or east could easily send vessels to break up on the shore. Laden with every conceivable cargo, bound for ports around the world, the pounding surf tore them apart, scattering their timbers and cargo along the shore.

By the 1790's, so many vessels were being wrecked on the Banks, and so many valuable cargos salvaged by the residents, that it became necessary to divide the entire coast into wreck districts, each assigned "Venue Masters." The Venue Master's job was to take

possession of any wreckage and cargo that came ashore, round up "Bankers" to help assist any vessel grounded on the coast, salvage the scattered cargo, advertise and conduct a public auction or venue of the materials. The auctions were sometimes held in port towns, but more frequently were held at the wreck site. Ship companies that could prove ownership of vessels and cargos could retrieve materials by paying a salvage fee. Unclaimed cargo would be sold at public auction. Undetected goods were sometimes taken by the residents.

TEACHER PREPARATION

1. Prepare the gameboard for the Graveyard of the Atlantic. (See media packet.)

   (a) Make a transparency of the game board.
   (b) Project an enlarged image onto a large piece of poster board and trace the board pattern.
   (c) Color or paint the gameboard to make it attractive.
   (d) Laminate the board to make a more permanent game.

2. Pennies may be used for playing pieces or tokens. Make copies of covers; color them; cut out and glue them to the top of pennies with rubber cement.

ACTIVITIES

1. Use a map to discuss the features of North Carolina coastal areas. Point out:

   the Outer Banks
   all the inlets
   location of the oldest towns of North Carolina

2. Discuss the meaning of the following words:

   inlet shoals sand bar salvage

3. Point out the location of the major sounds, Roanoke Island, Hatteras, Ocracoke and other features.

4. Allow students to go to the center to play "Graveyard" in small groups.

5. Encourage students to record folklore and stories about the Outer Banks and make oral reports to the class on their reading assignments.

CAPE HATTERAS FILMSTRIP PRESENTATION

Frame #	Description	
1	Panoramic view of Cape Hatteras	Cape Hatteras Lighthouse is on Hatteras Island.
2	The CH Lighthouse sound side	The Lighthouse serves as a daymarker to mariners as an aid to navigation.
3	The CH Lighthouse and its reflection in a pond of water	The CH Lighthouse is 198 feet tall - the tallest lighthouse in America.
4	Lighthouse and dwellings	The CH Lighthouse has two houses for the keeper and the assistant keepers.
5	Keepers dwellings	The large house was the home of the two assistant keepers and their families. The smaller house was for the principal lighthouse keeper.
6	The Visitor Center	The assistant keepers house is now used as the Visitor Center.
7	Rasmus Midgett	A famous surfman was Rasmus Midgett. When the barkentine Priscilla was driven ashore three miles south of the Gull Shoals Station by the storm of August 17, 1899, Rasmus Midgett, surfman on patrol, alone saved ten men's lives. Ten times he ran down into the pounding surf and each time he brought back a man.
8	Rasmus Midgett - portrait	Rasmus Midgett was awarded the Medal of Honor for his bravery.
9	G. A. Kohler	The G. A. Kohler was a casualty of the "Graveyard of the Atlantic" in 1934.
10	wreckers	The people of the Outer Banks used to be called "wreckers" because they would salvage what was left after a shipwreck.

11	Laura A. Barnes	The Laura A. Barnes was a four masted schooner that was stranded on a sand bar off Bodie Island in 1921. It can be seen today at Coquina Beach.
12	Fresnel Lens	The Fresnel Lens was used to light the lighthouse before electricity was available.
13	map and lighthouse	The coast of North Carolina has five lighthouses. The red lighthouse is the Currituck Lighthouse. Ocracoke Island Lighthouse is white, Cape Hatteras Lighthouse is black and white candy-striped, Bodie Island Lighthouse is black and white horizontally striped, and Cape Lookout Lighthouse is black and white diamond pattern.
14	Lighthouse keeper	The Bodie Island Lighthouse keeper is busy going about his duties.
15	Bodie Island Keeper	The Bodie Island Keeper is going into the little house in front of the Lighthouse where the oil to light the lamp is kept. This is also the entrance to the lighthouse.
16	Keeper in uniform	The Bodie Island Keeper poses in his blue uniform with gold buttons in front of the Bodie Island Lighthouse.
17	CH Lighthouse	Let's go climb the Cape Hatteras Lighthouse. Look up!
18	door plaque	The Cape Hatteras Lighthouse was built in 1870.
19	entrance	As you walk in the door, you can see the stairway.
20	looking up	Stand on the floor and look straight up toward the top of the lighthouse.
21	south view - first window	Look out of the first window to the south and you can see sand bags and the old base of the first Cape Hatteras Lighthouse.

22	north view - first window	Look out the first window to the north and you can see hotels and houses built directly behind the high dunes.
23	south view - high window	You are higher up now and looking south again. Find the base of the old lighthouse.
24	north view - high window	Look north from the big window and you will see houses and hotels along the dune ridge and several houses and motels that are victims of erosion.
25	Fresnel Lens	The Fresnel lens in the top of the lighthouse is used today; however, it is powered by electricity.
26	looking down	Now that you are at the top of the lighthouse - well, look down!
27	beach and old base	This is the base of the old lighthouse. It is gradually but steadily being claimed by the sea.
28	high dunes	The dunes along Hatteras Island are man-made. The dunes were built with sand fences and stabilized with beach grass and sea oats. Some of the dunes are 30 feet high.
29	sand bags	Sand bags were used to hold back the sea from the Cape Hatteras Lighthouse but they also have been claimed by the sea.
30	jetty	Jetties are structures built to help stop erosion and collect sand to build up the land. On one side of the jetty sand will collect, but on the other side it will only erode.
31	remains of G. A. Kohler	Time and tide have taken much from the G. A. Kohler wrecked in 1934. This schooner had her sails blown out by an August hurricane in 1933 on the way to Haiti. Eight men and one woman were rescued by the Coast Guard.

32	LST #471	The LST #471 was being towed by a tug to Charleston, South Carolina when the line broke and the ship washed ashore. The Chicamacomico Coast Guard Station with the aid of the Cape Hatteras, Oregon Inlet and Little Kinnakeet station rescued three men with the beach apparatus.
33	Oriental	The Oriental went down in 1862. It has since broken up leaving only its steel boiler.
34	ship washed ashore	This ship washed ashore in 1976. It was later towed back to sea.
35	the crew & captain	The Lifesaving Service had a special Beach Apparatus Drill that they used to prepare themselves for a shipwreck.
36	the crew at work	Half of the crew readied a cannon called a Lyle gun to shoot a projectile over the wrecked ship, while the other half buried a wooden anchor to hold down ropes that would be needed to rescue the survivors.
37	raising the hawser	The crew had to elevate the hawser line so that when people were pulled from the ship to the shore in the breeches buoy they would not be dragged through the surf and drown.
38	pulling the line	All of the crew members had to pull the people from the ship one at a time in the breeches buoy.
39	Coast Guard Helicopter	Modern rescue equipment includes Coast Guard helicopters and cutters.
40	CH Lighthouse at night and Texan tower on Diamond Shoals	The Cape Hatteras Lighthouse still flashes at night to aid mariners in navigating around Diamond Shoals. A Texas-tower has been built out over the Diamond Shoals to keep ships from running aground and wrecking.

CAPE HATTERAS LIGHTHOUSE FIELD TRIP

Beginning at Whalebone Junction, the Cape Hatteras National Seashore includes part of Bodie Island, Pea Island National Wildlife Refuge, Hatteras Island and Ocracoke Island. The islands are connected by bridge or ferry, and you can drive the length of the park on Highway 12. The road passes through eight small villages that reflect the culture of the Outer Banks. Following is a list of places to go:

Whalebone Junction Information Center

SandCastle

Coquina Beach

Pea Island National Wildlife Refuge

Bodie Island Lighthouse

Hatteras Lighthouse

Ocracoke Lighthouse

Ocracoke Island

For more information write to:

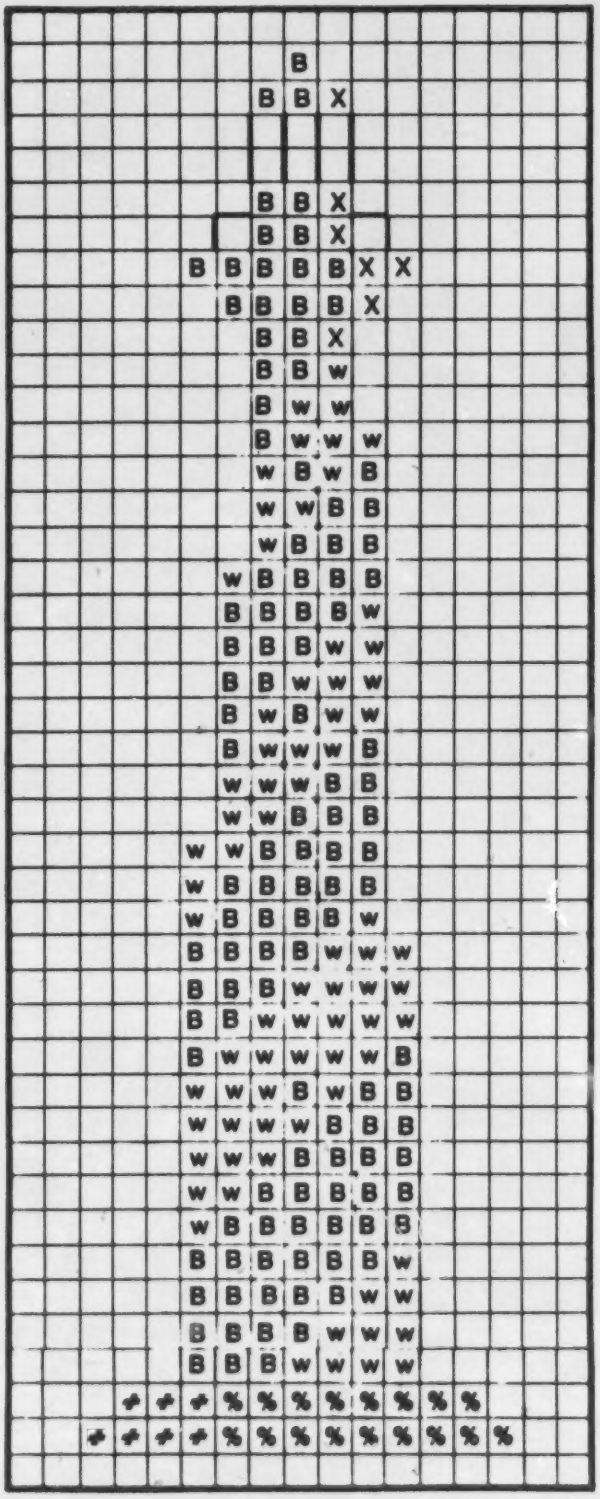
Cape Hatteras National Seashore Headquarters
Division of Interpretation
Route 1, Box 675
Manteo, North Carolina 27954

phone: (919) 473-2111

For ferry information see the North Carolina Transportation Map and Guide to Points of Interest. To obtain copies of maps write to:

Travel and Tourism Division
North Carolina Department of Commerce
Dobbs Building
430 North Salisbury Street
Raleigh, NC 27611

Phone: (919) 733-4908



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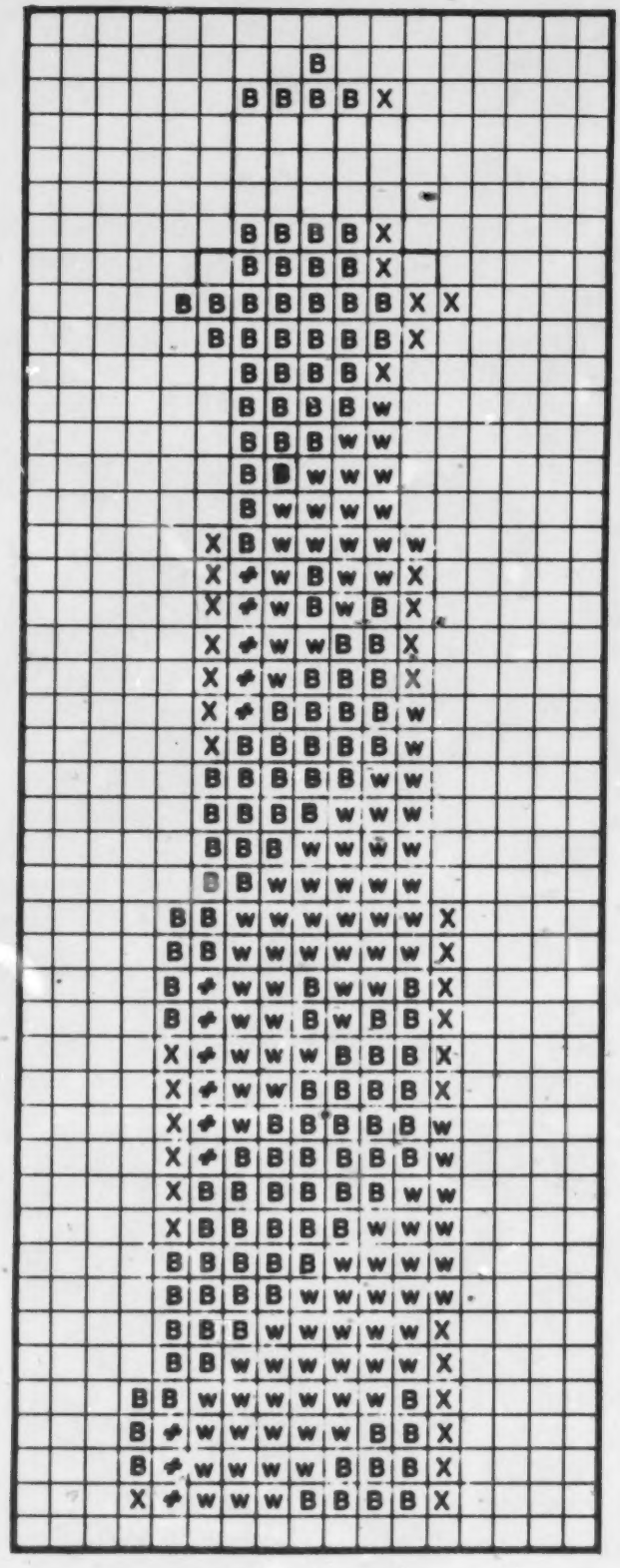

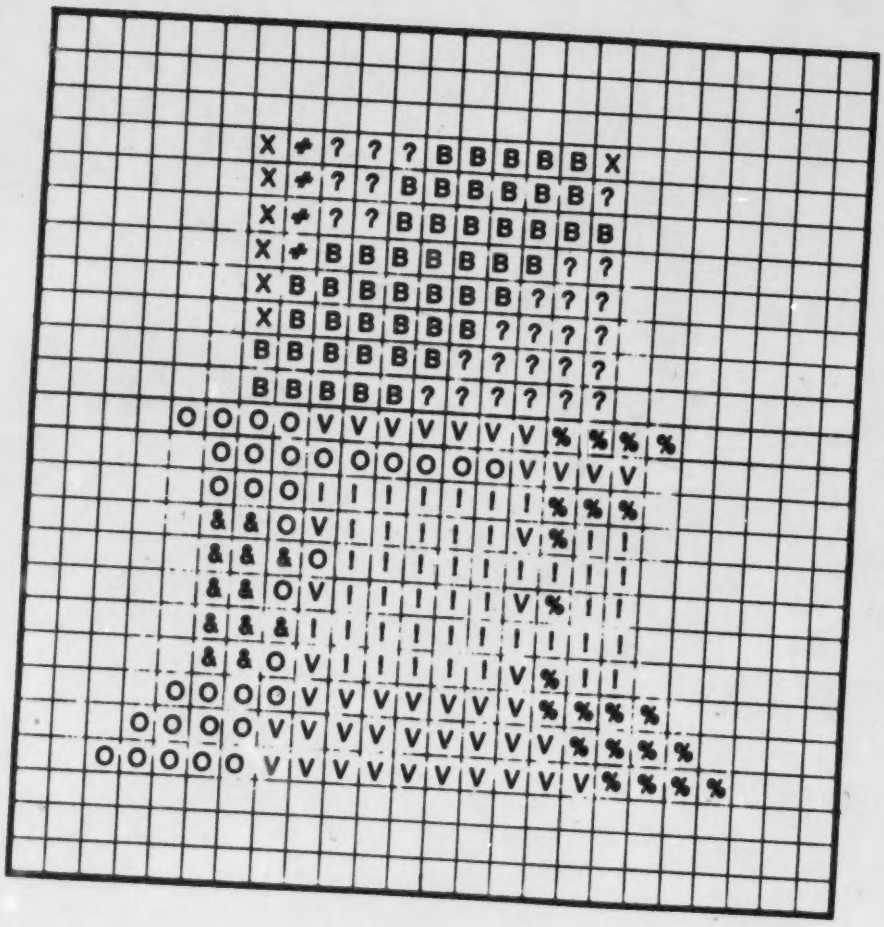
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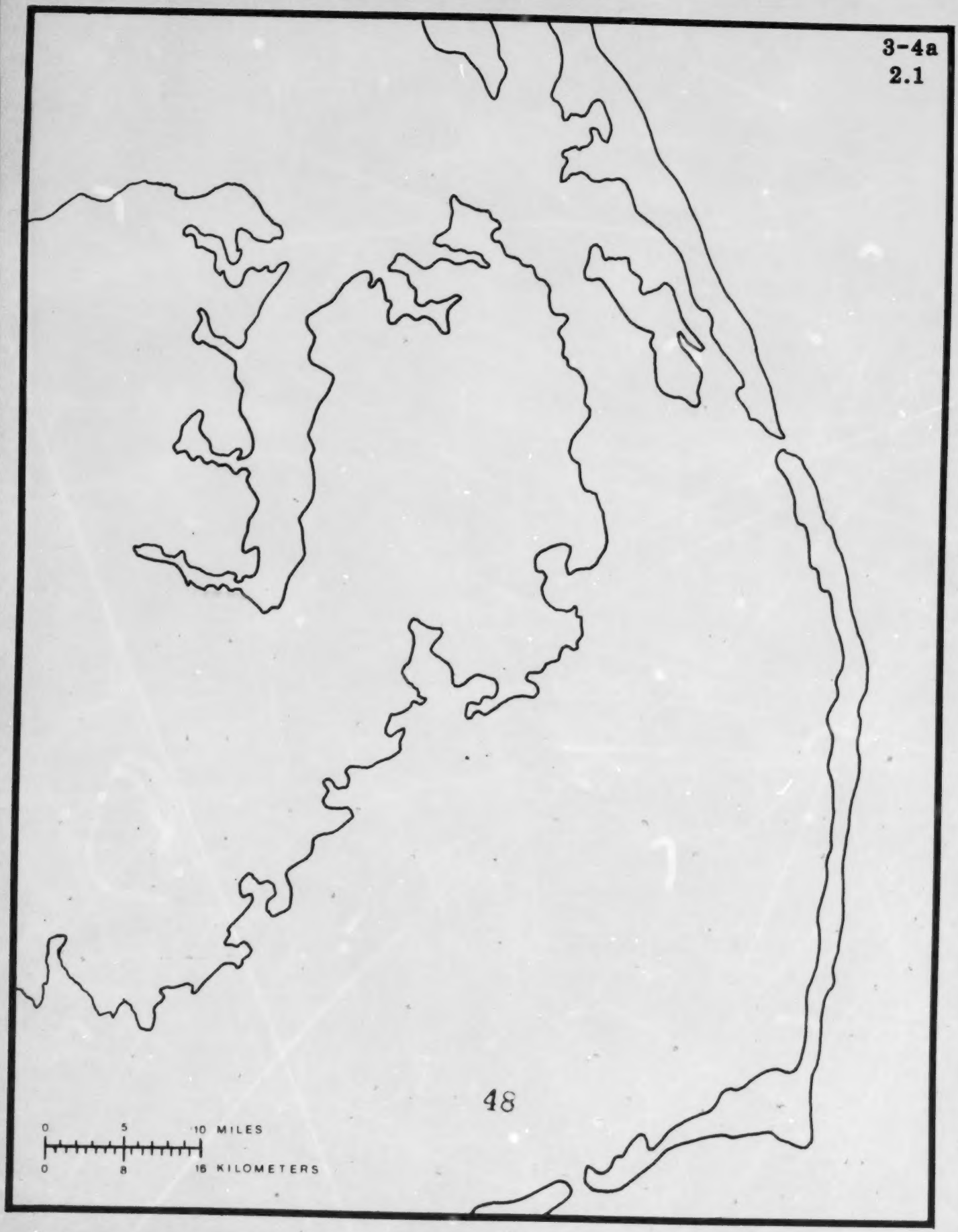
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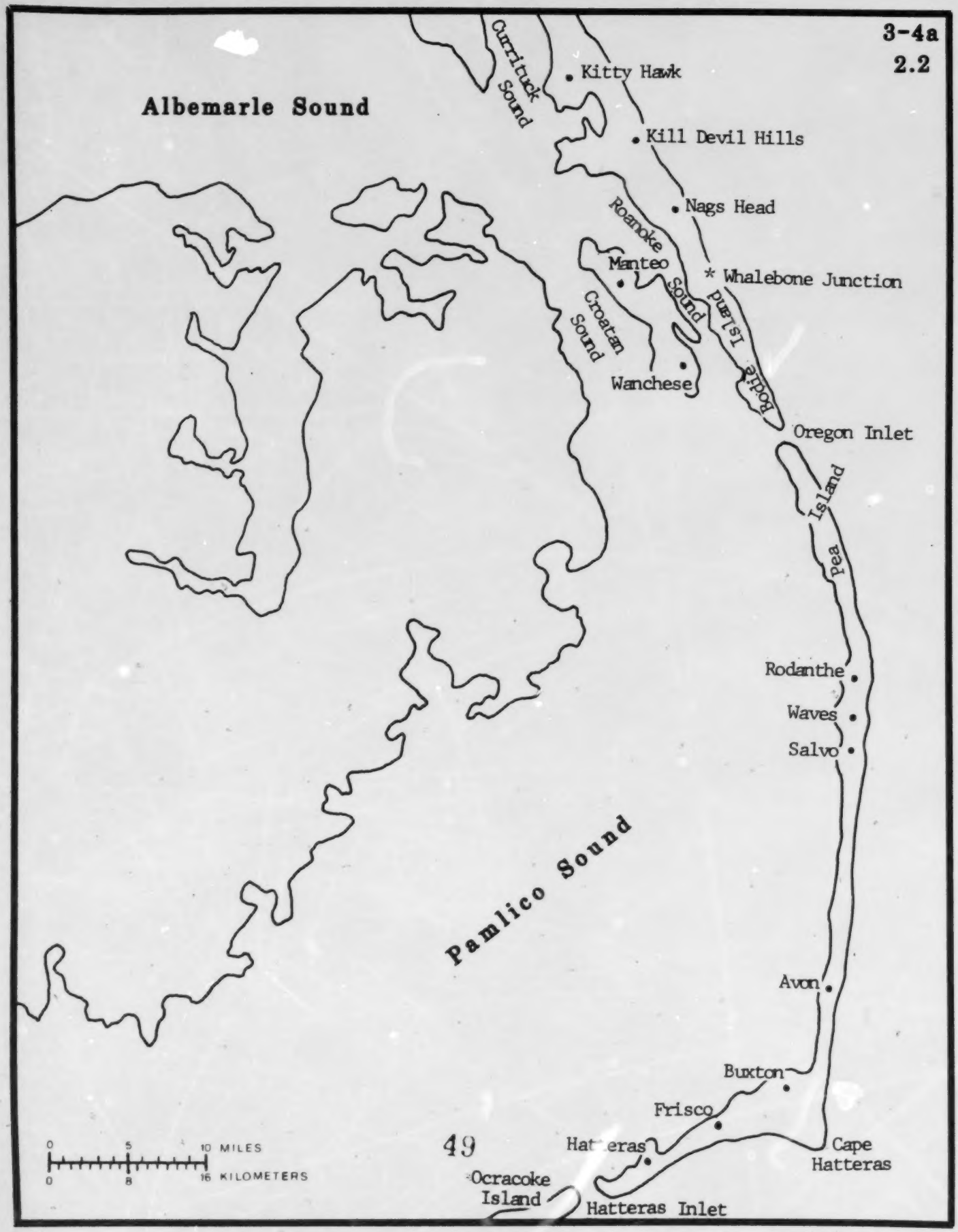
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Kitty Hawk
Kill Devil Hills
Nags Head
Roanoke Sound
Manteo
Whalebone Junction
Croatan Sound
Bodie Island
Wanchese
Oregon Inlet
Pea Island
Rodanthe
Waves
Salvo
Pamlico Sound
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NORTHERN NORTH CAROLINA COAST

3-4a
5.1

SHIPWRECKS OFF NORTHERN NORTH CAROLINA

#1 Marore

Tanker, off Rodanthe. She lies approximately 22 miles SE of Oregon Inlet, 12 miles offshore. She was torpedoed on February 26, 1942. Depth is approximately 100 feet.

#2 LST #471

The wreck lies just north of Rodanthe at ramp 10. She is approximately 100 yards offshore at a depth of 15 feet. The ship was sunk in 1949 while being towed to South Carolina.

#3 Oriental

Federal transport that sank May 8, 1862. She is approximately three miles south of Oregon Inlet, about 200 yards offshore. Depth is about 20 feet.

#4 Zane Gray

Liberty ship sunk as an artificial reef. This ship is three miles west of the Oriental. The bottom rests at 80 feet with the first deck at 40 feet. The ship is buoyed.

#5 Tug

Identification unknown. She lies at the southeast side of Oregon Inlet in 20 feet of water. This wreck is buoyed.

#6 U-85

German submarine, 753 tons, off Nags Head. She lies southeast of Oregon Inlet in 100 feet of water. She was sunk April 14, 1942, by the American destroyer, USS Roper.

#7 Buarque

Brazilian freighter, 5302 tons, off Nags Head. She lies 28 miles northeast of Oregon Inlet in 120 feet of water. She was torpedoed February 15, 1942, by the German submarine U-432.

#8 York

Freighter, 2677 tons, off Nags Head. She lies approximately six miles northeast of U-85 in 100 feet of water. She was torpedoed January 22, 1942, by the German submarine U-66.

#9 Benson

Tanker, 7953 tons, off Kill Devil Hills. She lies 28 miles northeast of Oregon Inlet in 110 feet of water. She was torpedoed April 5, 1942, by the German submarine U-522.

#10 Huron

Federal gunship steamer with sail, 541 tons, off Nags Head. She ran aground November 25, 1877 with the loss of ninety-eight crewmen. Wreck lies 200 yards north of Nags Head Pier and 100 yards offshore in 20 feet of water.

#11 Kyzickes

Tanker, Kill Devil Hills (Triangle Wreck). Located approximately at 7-mile post, about 100 yards offshore. The depth is about 20 feet. She went down in 1927 with a cargo of oil. Four lives were lost.

#12 Carl Gerhard

Freighter, Kill Devil Hills (Triangle Wreck). Wreck is at the same location as Kyzickes. Both wrecks are broken in half, with the bow section of the Kyzickes lying on the outer sand bar about 200 yards offshore. The Carl Gerhard went down in 1929 while carrying a cargo of plasterboard.

#13 Tug

Identification unknown, Kill Devil Hills. This wreck lies approximately 300 yards south of Avalon Pier and 75 yards offshore in 20 feet of water.

#14 Metropolis

Freighter, Corolla (Horsehead Wreck). Three miles south of Currituck Beach Light and about 100 yards offshore in breakers. The depth is about 15 feet. She went down in 1878; 85 lives were lost. She was carrying 500 tons of iron rails and 200 tons of stones. The Metropolis was formerly the Federal gunboat, Stars and Stripes.

CENTRAL NORTH CAROLINA COAST

3-4a
5.3

ATLANTIC OCEAN

SHIPWRECKS OFF THE CENTRAL NORTH CAROLINA

#1 W. E. Hutton — Tanker, 4359 tons, 2 miles west of the Suloide in approximately 60 feet of water. She was torpedoed by the U-124 on March 19, 1942.

#2 Suloide — Cargo vessel, buoyed WR-13, 1879 tons, 13.7 miles south from Beaufort Inlet in approximately 60 feet of water. She collided with the partially submerged hull of the tanker W. E. Hutton on March 26, 1943.

#3 Theodore Parker — Liberty ship sunk as an artificial reef. This ship lies one and a half miles off Bogue Banks and three miles west of Fort Macon. The bottom rests in 60 feet of water with the top deck at 30 feet.

#4 Senateur Duhamel — British armed trawler, buoyed WR-8, 8.2 miles southeast of Beaufort Inlet in approximately 55 feet of water. On May 6, 1942, she was accidently rammed and sunk.

#5 Fenwick Island — Menhaden trawler, approximately 17 miles from Beaufort Inlet. This wreck is 125 feet long and rises to within 36 feet of the surface with the bottom on 60 feet. She sank on December 7, 1968.

#6 U-352 — German submarine. She lies approximately 26 miles south of Beaufort Inlet in 115 feet of water. She was sunk on May 9, 1942, by the Coast Guard Cutter Icarus.

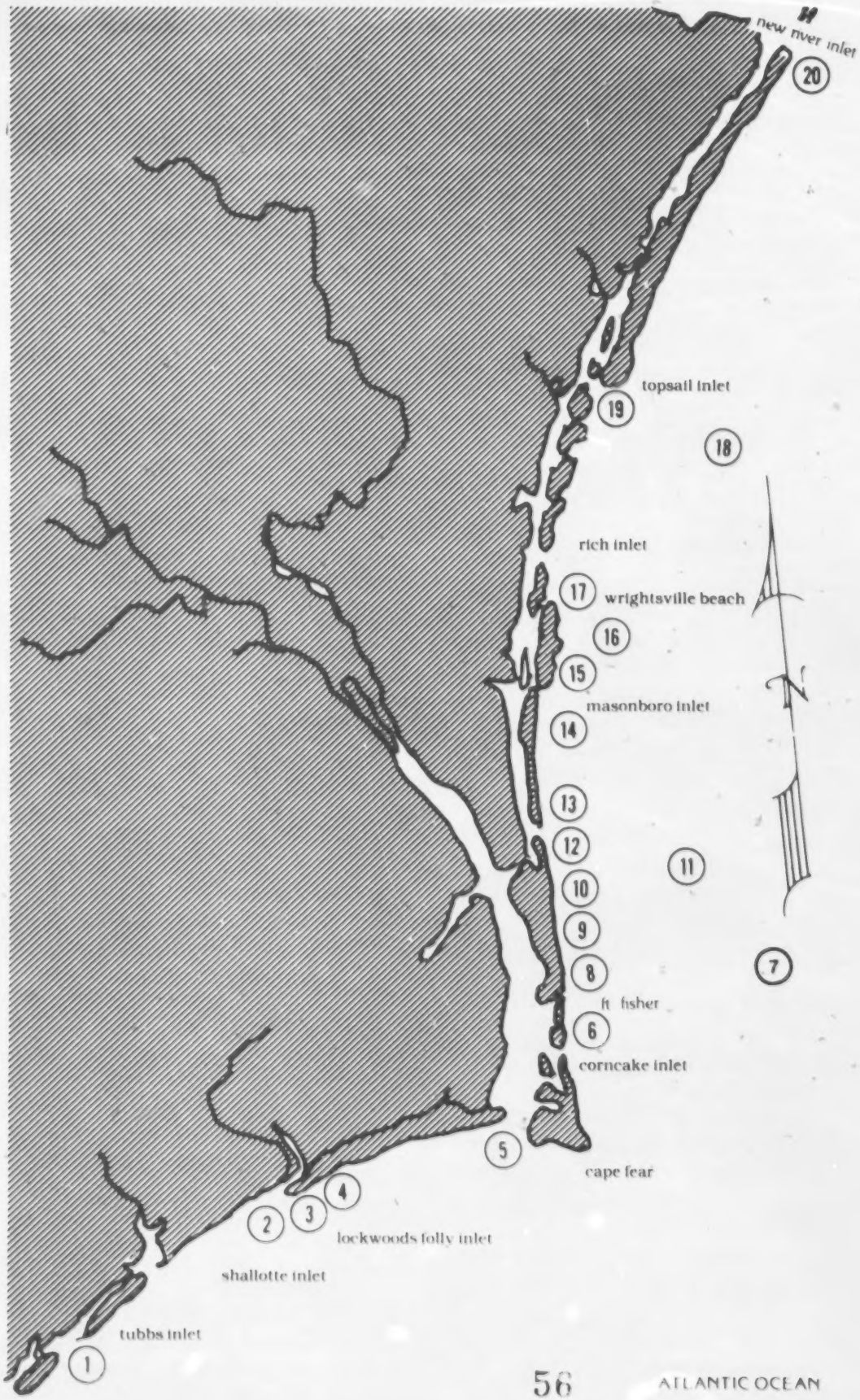
#7 Portland — Cargo vessel, buoyed, 2648 tons. She lies approximately 18 miles from Beaufort Inlet in 50 feet of water. She sank on February 11, 1943 after hitting what was believed to be a mine.

#8 Atlas — Tanker, 7137 tons. She lies approximately 23 miles east/southeast of the Beaufort Inlet sea buoy and comes within 45 feet of the surface. She was torpedoed April 9, 1942, by the U-552.

#9 Caribsea — Cargo vessel, 1610 tons. She lies approximately 24 miles from the Beaufort Inlet sea buoy. The bottom of the wreck lies at 100 feet with the ship rising to 75 feet below the surface. She was torpedoed on March 11, 1942 by the U-158.

SOUTHERN NORTH CAROLINA COAST

3-4a
5.5



SHIPWRECKS OFF SOUTHERN NORTH CAROLINA

#1 Vesta — Steamer, blockade runner, 500 tons. She lies south of Tubbs Inlet off Vesta Pier in about 10 feet of water. She was run aground February 4, 1864. This wreck is awash at low tide.

#2 Ranger — Steamer, blockade runner, 500 tons. One mile west of Lockwoods Folly Inlet in approximately 15 feet of water. On January 11, 1864, she ran aground with a cargo of rifles and carpentry tools.

#3 Bendigo — Steamer, blockade runner, 500 tons. One mile southwest of Lockwoods Folly Inlet in approximately 15 feet of water. On January 11, 1864, she ran aground with a cargo of rifles and carpentry tools. This wreck is awash at low tide.

#4 Iron Age — Union warship, steamer, blockade runner of 424 tons. Lockwoods Folly Inlet, 10 feet. She ran argound while attempting to tow the Bendigo off some shoals. She was put to the torch and destroyed January 11, 1864.

#5 Ella — Side-wheel steamer, blockade runner, 404 tons. Cargo of military goods and gin. The ship ran aground fleeing a blockader December 3, 1864.

#6 Peterhoff — Side-wheel steamer, blockader, 800 tons. She is located 20 miles offshore at Corncake Inlet in 35 feet of water. On March 6, 1864, she collided with another Union ship and promptly sunk.

#7 John D. Gill — Tanker, 12,000 tons, buoyed WR 4, 30 miles southwest of Wrightsville Beach. The main deck lies at 60 feet with the bottom resting at 90 feet. She was torpedoed March 13, 1942, by U-158. This wreck is breaking up.

#8 Condor — Side-wheel steamer, blockade runner, 300 tons. Offshore of monument at Ft. Fisher in 20 feet of water. She ran aground on October 1, 1864, while trying to avoid another shipwreck.

#9 Modern Greece — Steamer, blockade runner, 1000 tons. Approximately one-half mile north of Ft. Fisher. On June 27, 1862, she was forced aground with a cargo of munitions.

#10 General Beauregard — Steamer, blockade runner. Located off Spartanburg Avenue in Carolina Beach in 15 feet of water. She was run aground on December 11, 1863.

#11 10 mile dredge — No positive identification. 17 miles from Masonboro Inlet. This wreck is over 200 feet long and lies in 75 feet of water. The top of the wreck is 60 feet below the water's surface.

#12 Hebe — Side-wheel steamer, blockade runner. Near the Carolina Beach Fishing Pier that is south of inlet at Carolina Beach. Depth is 20 feet. She was run aground August 18, 1863, by Union forces.

#13 Venus — Steamer, iron sheathed, 365 tons. Located near Hebe. On October 21, 1863, she ran aground.

#14 Sophia — British blockade runner, approximately 4 miles south and west of Masonboro Inlet. Cargo was primarily composed of field carriages. She ran aground on November 4, 1862.

#15 Paddle Wheels — Located 50 feet north of Wrightsville Beach jetty, out 100 yards in approximately 10 feet of water. Not positively identified, but believed to be the U.S.S. Columbia, a Union gun boat that went down on January 14, 1863.

SHIPWRECKS OFF SOUTHERN NORTH CAROLINA

#16	Barge Fire Fighter Liberty Ship	These three ships were sunk in the early 1970s as part of North Carolina's Artificial Reef Program. They are 3 miles due east of Wrightsville Beach Inlet.
#17	Fanny & Jenny	Fore & aft side, wheel steamer, blockade runner. North of Wrightsville Beach jetty in 12 feet of water. Included in cargo was a gold mounted presentation sword for General Robert E. Lee. On February 10, 1864, she was forced aground by Union forces.
#18	Cassimire	The ship is approximately 400 feet long. The highest part of the wreck is at 85 feet with bottom at 110 feet. She lies 46 miles southwest of Bogue Inlet.
#19	Phantom	Steamer, blockade runner, 266 tons. Near Rich Inlet about 200 yards offshore in 30 feet of water. Cargo of war material. She was forced aground on September 23, 1863.
#20	Nut Field	Side-wheel steamer. Blockade runner, 750 tons. Located at New River Inlet. Cargo contained munitions. She ran aground on February 4, 1864.

CHARLIE MASON POGIE BOAT

by

Charles Stowe

It was the first of January
In the new year '48
While fishing off the Look Shack
Charlie Mason met her fate.

It was a pretty day that morning
With a light southerly wind
In the evening it looked different
The Capt'n thought he should come in.

He give orders to pick up port boat
and the starboard too
When the falls broke on the starboard side
and the net went in the screw

Now while he called the Coast Guard
"Nan-mike-nan two nine
Send your eighty-three footer
And your best piece of line"

The crew they manned the patrol boat
Immediately left the station
Proceeded through the inlet
Up to the Charlie Mason

They got the line made fast
When the bit broke like a match
Then Wiley knew he'd lost his boat
And all of his catch

I'm coming ashore Coast Guard
You'd better make a start
Then the crew of the Coast Guard Station
Broke out their old beach cart

They backed up the bomb service
For the beach cart to hook
There was nothing but Core Sounders
Anywhere that you might look

And then Van Henry said Stanley
Hear my plan
Harvey Smith says he pay us thirty grand
He'll pay that sum
If we can float
That Charlie Mason Pogie Boat

Now Lum he said to William
You load the old Lyle gun
When he went to pull the lanyard
You could see the fellows run

The Lyle gun she wouldn't fire
It was an awful disgrace
Lum couldn't see a blessed thing
His hat blew in his face

But they finally got the hawser out
And tied it to the mast
They stepped the crotch and fixed the bouy
The thing was rigged at last

First man crawled in the bouy
The crew they heaved around
He was so heavy the hawser sagged
Poor devil nearly drowned

Now all the men were saved that night
All excepting one
This man he had a heart attack
His name was Payton Young

Ansley O'Neal brought him over
To the Coast Guard Station
The crew they worked him over
artificial respiration

But Van Henry said Stanley
Hear my plan
Harvey Smith says he'll pay us thirty grand
He'll pay that sum
If we can float that
Charlie Mason Pogie Boat

Up a Travis Williams'
You could hear this conversation
If I had the equipment
I'd float that Charlie Mason

But Stanley Wahab told his men
You float that craft for me
And Sunday the fourth of April
She was in Beaufort in sea.

Resource: "Between the Sound and the Sea Oral Tradition: Music of the North Carolina Outer Banks." Collected by Karen G. Helms. Recorded by Otto Henry & Karen G. Helms. New York: Folkways Records and Service Corp., Folkways Records FS 3848. 1977.

WEATHER INFORMATION CHART

MONTH	MAX. AVG.	MIN. AVG.
January	51°	35°
February	51	34
March	58	40
April	67	49
May	75	58
June	82	67
July	87	72
August	86	71
September	80	67
October	72	58
November	63	47
December	53	37

A PARTIAL LIST OF KEEPERS AND ASSISTANT KEEPERS OF THE CAPE HATTERAS LIGHT

KEEPERS

NAME	ANNUAL SALARY	DATE OF APPOINTMENT	DATE OF VACATION	MANNER VACATED
Adam Gaskin		1802		
Joseph Farrow		1808		
Pharoah Farrow		April 1821		
Isaac Farrow		1830		
Joseph C. Jennet		1842		
Hezekiah F. Farnett (interim keeper, 1949)				
William O'Neal	$600	July 7, 1853	July 9, 1860	Resigned
E. F. O'Neal	600	June 9, 1860	October 16, 1860	Removed
B. F. Fulcher	600	October 15, 1860		
Abraham C. Farrow	600	Sept. 30, 1862	April 14, 1864	Removed
George W. Rodgers	600	April 14, 1866	Aug. 30, 1866	Resigned
Alpheus W. Simpson	820	August 16, 1866	Sept. 30, 1868	Resigned
Benjamin C. Jennett	820	Sept. 30, 1868	March 15, 1871	Removed
John W. Shepperd	820	March 15, 1871		
Oscar F. Rue	800	April 24, 1878		
J. Wilson Gillikin	800	December 6, 1897	June 1, 1900	Transferred
Ephraim Meekins, Jr.	800	June 1, 1900	October 1, 1906	Transferred
Fabius E. Simpson	800	October 1, 1906		
Unaka B. Jennette	800			

3-4a
11.1

ASSISTANT KEEPERS

NAME	ANNUAL SALARY	DATE OF APPOINTMENT	DATE OF VACATION	MANNER VACATED
H. B. O'Neal	$300	April 7, 1854		
W. B. O'Neal	300	April 7, 1854		
R. Scarborough	300	January 23, 1855		
E. D. Neal	300	October 30, 1856	October 18, 1860	Removed
C. Fulcher	300	January 1, 1858		Deceased
William Jennett	300	June 9, 1860	October 16, 1860	Removed
Andrew Williams	300	October 15, 1860		Removed
B. A. Williams	300	October 15, 1860	Sept. 7, 1865	Removed
Wallace R. Jennett	300	July 18, 1863	Sept. 7, 1865	Removed
N. T. Williams	300	February 15, 1864	April 10, 1871	Resigned
Sylvester Robinson	300	March 2, 1964		
L. B. Farrow	300	December 22, 1864	January 23, 1867	Resigned
Abner H. Gray	400	September 7, 1865		
Christopher Fulcher	400	September 7, 1865	January 15, 1869	Removed
William B. O'Neal	400	January 23, 1867	March 18, 1867	Resigned
Wallace R. Jannett	400	March 18, 1867		
Joseph E. Jannett	400	January 15, 1869	March 29, 1869	Resigned
Alpheus W. Simpson, Sr.	400	March 29, 1869	April 13, 1869	Declined
C. P. Farrow	400	April 13, 1869	June 29, 1871	Resigned
Zion B. Jennett	400	April 11, 1870	October 28, 1870	Resigned
Nana S. Williams	400	October 28, 1870		
Louis C. Roach	400	June 29, 1871		
Alpheus W. Simpson	425	July 22, 1878		
Tillman F. Smith	425	November 19, 1878		
Selwyn Hause	425	November 30, 1878		

NAME	ANNUAL SALARY	DATE OF APPOINTMENT	DATE OF VACATION	MANNER VACATED
Joseph B. Whitehurst	$400	July 22, 1878		
John E. Whitehurst	400	April 17, 1879		
T. F. Smith	400	December 18, 1879		
J. E. Whitehurst	400	December 18, 1879		
F. E. Simpson	500	November 17, 1893	January 1, 1900	Transferred
Sanders B. Smith			January 1, 1900	Promoted
Alpheus W. Simpson	425	January 13, 1894	May 16, 1899	Transferred
John B. Jennett	425	June 7, 1889	March 5, 1903	Transferred & promoted
Martin G. Fulcher	450	January 1, 1900	April 4, 1905	Transferred
Amasa Fulcher	425	March 10, 1903	March 30, 1904	Transferred
John B. Quidley	425	April 1, 1904	October 16, 1905	Transferred
Issac C. Meekins	450	April 10, 1905	April 1, 1906	Transferred
Thomas H. Baum	500	April 10, 1905	December 1, 1905	Transferred & promoted
W. G. Falsom	425	April 1, 1905	April 15, 1905	Service terminated
A. W. Tolson*	500	April 27, 1905		
William G. Robinson	425	October 16, 1905	January 11, 1906	Transferred & promoted
Alpheus B. Willis	500	December 1, 1905		
Charles H. Fulcher	450	April 1, 1906		

*See Chief Clerk, Lighthouse Board to 5th District Inspector, Washington, April 27, 1905, File No. 860; "Lighthouse Keepers and Assistant Keepers, 1872-1880;" "Lighthouse Keepers and Assistant Keepers, 1853-1871, Districts 1-6;" "Record of Light Keepers, 1st to 5th Districts, 1896-1907;" all in Record Group 26, National Archives.

3-4a
11.3

GRAVEYARD OF THE ATLANTIC

The object of the game is to safely navigate your ship along the coast of North Carolina, "The Graveyard of the Atlantic," to the port of Wilmington.

DIRECTIONS

1. Roll the die to determine the order of the players. Each player chooses a ship marker. Two to four students may play the game.

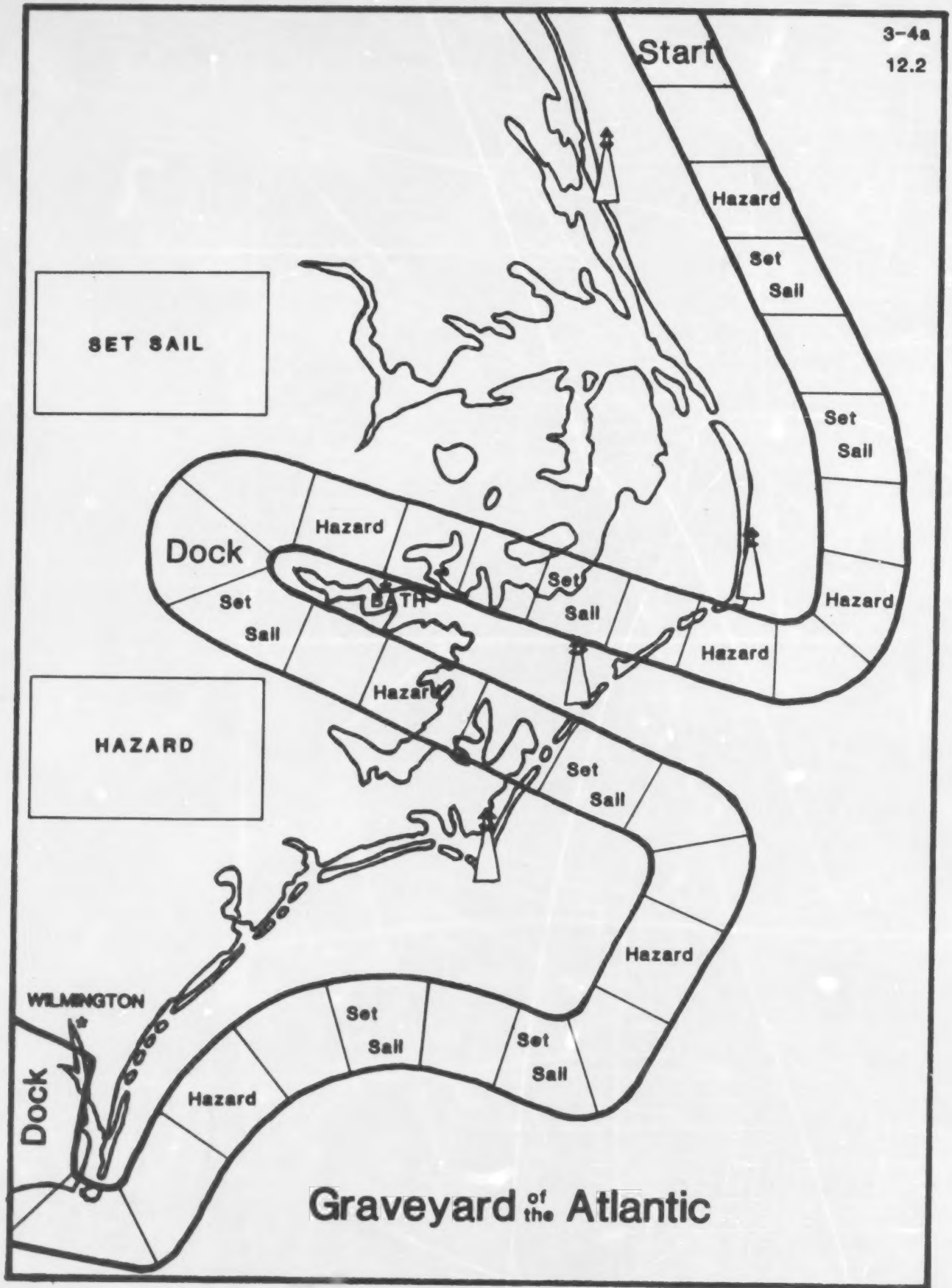
2. Roll the die and move your sailing vessel the number of spaces indicated.

3. The game begins in the Labrador Current and ends at the port in Wilmington.

4. Hazards may befall your ship as you navigate the treacherous coastline of North Carolina. When you land on a space marked HAZARD, draw a Hazard card and follow the directions.

5. When you land on a SET SAIL card, draw a card and answer the questions correctly. Check the answer by the key and move ahead one space for every correct answer. For every incorrect answer, move backwards one space.

6. The first ship to reach port in Wilmington is the winner of the game.


3-4a
12.2
Start
Hazard
Set
Sail
SET SAIL
Set
Sail
Dock
Hazard
Set
Sail
BATH
Set
Sail
Hazard
Hazard
Hazard
HAZARD
Set
Sail
Hazard
WILMINGTON
Set
Sail
Set
Sail
Dock
Hazard
Graveyard of the Atlantic

Token covers for Graveyard of the Atlantic

SET SAIL - QUESTION CARDS

ANSWER KEY

1. Name the famous North Carolina Pirate that hid out in Ocracoke. (Blackbeard or Edward Teach)

2. Name the pirate who sailed along the Cape Fear River. (Stede Bonnet)

3. Name Blackbeard's famous ship. (Adventure)

4. What is the oldest lighthouse in North Carolina? (Ocracoke since 1823)

5. Where are Frying Pan Shoals located? (off Cape Hatteras)

6. Which lighthouse is painted black and white horizontal stripes? (Bodie Island)

7. Which lighthouse is painted black and white in spiral stripes? (Cape Hatteras)

8. Which lighthouse is whitewashed? (Ocracoke)

9. Name the dangerous shoals off Cape Hatteras? (Diamond Shoals)

10. What did North Carolina import from England? (manufactured goods)

11. Name some exports of North Carolina. (naval stores, lumber products, tobacco)

12. Why is North Carolina's coast called the "Graveyard of the Atlantic?" (The strong currents and shifting sands have caused many ships to wreck.)

13. What was the first port in North Carolina? (Bath)

14. What inlet is currently in the process of closing? (Oregon Inlet)

15. Why did pirates find the coast of North Carolina so attractive? (Close to major shipping lane and offered good hiding places)

SET SAIL

SET SAIL

3-4a
12.6

SET SAIL

SET SAIL

SET SAIL

SET SAIL

SET SAIL

SET SAIL

NAME THE FAMOUS NORTH CAROLINA PIRATE THAT HID OUT IN OCRACOKE.

1

NAME THE PIRATE WHO SAILED ALONG THE CAPE FEAR RIVER.

2

NAME BLACKBEARD'S FAMOUS SHIP.

3

WHAT IS THE OLDEST LIGHTHOUSE IN NORTH CAROLINA?

4

WHERE ARE FRYING PAN SHOALS LOCATED?

5

WHICH LIGHTHOUSE IS PAINTED BLACK AND WHITE HORIZONTAL STRIPES?

6

WHICH LIGHTHOUSE IS PAINTED BLACK AND WHITE SPIRAL STRIPES?

7

WHICH LIGHTHOUSE IS WHITEWASHED?

8

NAME THE DANGEROUS SHOALS OFF CAPE HATTERAS.

9

WHAT DID NORTH CAROLINA IMPORT FROM ENGLAND?

10

NAME SOME EXPORTS OF NORTH CAROLINA.

11

WHY IS NORTH CAROLINA'S COAST CALLED THE "GRAVEYARD OF THE ATLANTIC?"

12

WHAT WAS THE FIRST PORT IN NORTH CAROLINA?

13

WHAT INLET IS CURRENTLY IN THE PROCESS OF MOVING AND CLOSING?

14

WHY DID PIRATES FIND THE COAST OF NORTH CAROLINA SO ATTRACTIVE?

15

HAZARD

HAZARD

3-4a

12.9

HAZARD

HAZARD

HAZARD

HAZARD

HAZARD

HAZARD

MAN OVERBOARD

LOSE ONE TURN

PUMP NEEDS REPAIR

GO BACK TWO SPACES

NET IS HUNG ON HANG NO. 483

GO BACK TWO SPACES

CAUGHT IN GALE FORCE WINDS

LOSE ONE TURN

SMALL CRAFT ADVISORY

GO BACK TWO SPACES

RADIO EQUIPMENT NEEDS REPAIR

GO BACK ONE SPACE

NOR'EASTER BLOWS IN
GO IN FOR SAFETY

LOSE ONE TURN

TIDES ARE AGAINST YOU

GO BACK ONE SPACE

CURRENTS PUSH YOU BACK

GO BACK TWO SPACES

GOING AGAINST THE WIND

GO BACK TWO SPACES

STUCK IN SHALLOW WATER

LOSE ONE TURN

WATER SPOUT

GO BACK THREE SPACES

HURRICANE WARNINGS

GO BACK THREE SPACES

STUCK ON A SAND BAR
OFF DIAMOND SHOALS

GO BACK TWO SPACES

BAD WEATHER REPORT
COME IN FOR SAFETY

GO BACK THREE SPACES

CAPE HATTERAS LIGHTHOUSE TEST

3-4a

1. The Cape Hatteras Lighthouse was built to aid mariners in navigation

   a. around the Cape.
   b. through Hatteras Inlet.
   c. around Diamond Shoals.
   d. around Frying Pan Shoals.

2. One of the most serious problems of the first Cape Hatteras Lighthouse was

   a. birds in the lantern.
   b. erosion of sand away from the base.
   c. poor oil used to light the lantern.
   d. none of the above.

3. Materials needed for building the lighthouse were

   a. bricks.
   b. iron.
   c. stone.
   d. all of the above.

4. Why was the old lighthouse blown up?

   a. It might have fallen in a heavy storm.
   b. There was no longer a need for it.
   c. It would have confused the mariners.
   d. All of the above.

5. The reason the Lighthouse Board built a new lighthouse in 1870 was because the old lighthouse was

   a. out of date.
   b. not tall enough.
   c. in need of repair.
   d. all of the above.

6. The Cape Hatteras Lighthouse can be seen as far as _____ miles out to sea.

   a. 32
   b. 20
   c. 12
   d. none of the above

7. The Cape Hatteras Lighthouse is the tallest lighthouse.

   a. in the world.
   b. on the Pacific coast.
   c. on the American coast.
   d. all of the above.

8. The Bodie Island lighthouse is painted black and white in a

   a. diamond pattern.
   b. candy-striped pattern.
   c. striped pattern.
   d. none of the above.

9. A famous surfman in the Lifesaving Service was Ramus Midgett. He saved the lives of ten men when the _____ wrecked.

   a. Oriental
   b. Laura Barnes
   c. Priscilla
   d. G. A. Kohler

10. The Lifesaving Service practiced drills using which of the following apparatus:

   a. Lyle gun
   b. helicopter
   c. buoy
   d. all of the above.

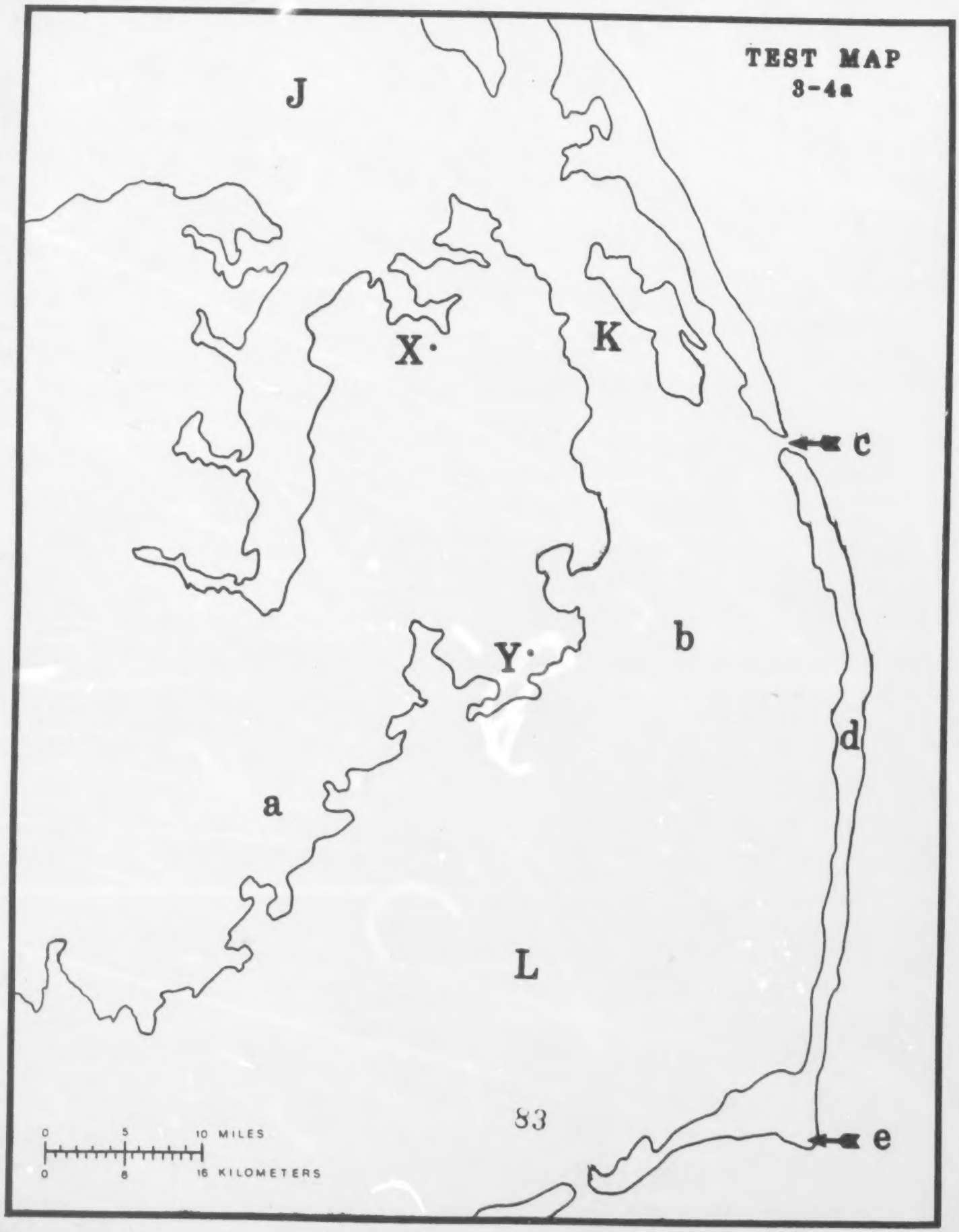
11. Match the following terms with the letters found on the test map:

a. _____	1. cape
b. _____	2. inlet
c. _____	3. sound
d. _____	4. mainland
e. _____	5. barrier island

12. What is the distance between the points located at X and Y on the test map in miles? _____ In kilometers?_____

13. Match the names of the sounds with their proper location on the test map.

J. _____	1. Albemarle
K. _____	2. Roanoke
L. _____	3. Croatan
	4. Pamlico


TEST MAP
3-4a
J
X
K
c
b
Y
d
a
L
e
0 5 10 MILES
0 8 16 KILOMETERS

ANSWER KEY

TEST 3-4a

1. c
2. b
3. d
4. d
5. d
6. b
7. c
8. c
9. c
10. a
11. a. 4
    b. 3
    c. 2
    d. 5
    e. 1.
12. 20 miles, 32 kilometers
13. J. 1.
    K. 3
    L. 4